



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,502	09/26/2003	Takayuki Ito	26A-010	8625

23400 7590 12/28/2007
POSZ LAW GROUP, PLC
12040 SOUTH LAKES DRIVE
SUITE 101
RESTON, VA 20191

EXAMINER

HUSON, MONICA ANNE

ART UNIT	PAPER NUMBER
----------	--------------

1791

MAIL DATE	DELIVERY MODE
-----------	---------------

12/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/670,502

Applicant(s)

ITO ET AL.

Examiner

Monica A. Huson

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-23 and 25-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-23 and 25-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the Amendment filed 9 October 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-23 and 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaka et al. (U.S. Patent 5,628,944), in view of Cavender et al. (U.S. Patent 4,882,107). Regarding Claim 21, Nagasaka shows that it is known to carry out a method for manufacturing a molded product having a molded portion (Abstract), the method comprising forming a releasing agent layer, the releasing agent layer being composed of a releasing agent, adhered to a wall surface of a cavity of a mold that is in a closed state by injecting a first liquid containing the releasing agent and a solvent into the cavity prior to supplying a molding material forming a molded portion to the closed cavity (Column 3, lines 65-67; Column 4, lines 1-5; Column 7, lines 32-47; the release agent is incorporated into the surface layer; the solvent comprises the material in which the release agent is dissolved), and depressurizing the cavity to boil the solvent in the closed cavity prior to supplying the molding material to the closed cavity and evacuating the vaporized solvent from the closed cavity prior to supplying the molding material to the closed cavity (Column 4, lines 1-5; Column 7, lines 63-67; Column 8, lines 1-8); and forming the molded portion by supplying a molding material into the cavity after the releasing agent is formed (Column 4, lines 5-12; Column 7, lines 48-62). Although Nagasaka only refers to the boiling of the solvent of the interior layer (U2), it is being interpreted that since the surface layer (U1) comprises the same or very similar materials, U1 will also boil under the applied vacuum. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made for the solvent of the release agent layer (i.e. surface layer) to be caused to boil and evacuated from the closed mold cavity in order to provide the desired skin appearance of the surface layer (see Nagasaka, Column 8, lines 2-3). Nagasaka does not show forming a release agent layer by injecting a liquid consisting of a releasing agent and a solvent. Cavender et al., hereafter "Cavender," show that it is known to carry out a

method of forming a releasing agent layer by injecting a first liquid consisting of a releasing agent and a solvent into a cavity (Column 25, lines 33-37). Cavender and Nagasaka are combinable because they are concerned with a similar technical field, namely, methods of molding products using a mold having a previously-applied release coating. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Cavender's release agent layer composition as that of Nagasaka's molding process in order to provide effective release of the molded product with the minimization of use of hydrocarbon solvents (See Cavender, Column 25, lines 17-19).

Regarding Claim 22, Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, including a method wherein the depressurization of the cavity is performed immediately before the injection of the releasing agent ends or after the injection of the releasing agent ends (Column 7, lines 21-31), meeting applicant's claim.

Regarding Claim 23, Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, but he does not show injecting the releasing layer when depressurizing the cavity. Nagasaka shows that it is known to carry out a method wherein the releasing agent is injected when depressurizing the cavity (Column 1, lines 55-60; Column 2, lines 4-6; It is noted that when the surface layer contains a releasing agent, the releasing agent is injected when depressurizing the cavity.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Nagasaka's release layer molding method during Nagasaka's process in order to insure a flawless demolding sequence.

Regarding Claim 26, Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, but he does not show specifically molding a surface layer. Nagasaka shows that it is known to carry out a method including forming a surface layer on the wall surface of the cavity by injecting a second liquid containing material of the surface layer into the cavity and depressurizing the cavity (Column 1, lines 55-67; Column 2, lines 6-9; Column 7, lines 32-36). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Nagasaka's surface layer molding step during Nagasaka's molding process in order to enable the formation of widely-varied decorative objects.

Regarding Claim 27, Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, including a method wherein the molded product is an insert molded product including an insert member occupying at least part of the molded product (Column 1, lines 20-21; element 45/46), meeting applicant's claim.

Regarding Claim 28, Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, but he does not specifically show measuring an amount of molding

material. Nagasaka shows that it is known to carry out a method wherein the injection of the first liquid includes injecting a previously measured amount of the first liquid into the cavity (Column 7, lines 32-35). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Nagasaka's measuring step during Nagasaka's molding process in order to avoid overfilling or underfilling the mold cavity.

Regarding Claim 29, Nagasaka shows that it is known to carry out a method for manufacturing a molded product using a mold having a cavity (Abstract), the method comprising the steps of closing the mold (Column 7, lines 21-23); injecting a first liquid including a releasing agent and a solvent into the closed cavity prior to supplying a molding material forming a molded portion to the closed cavity (Column 3 lines 65-67; Column 4, lines 1-5) and forming a releasing agent layer composed of a releasing agent adhered to the entire surface of the closed cavity (Column 4, lines 1-5; Column 7, lines 32-47; the releasing agent is incorporated into the surface layer); and depressurizing the cavity to boil the solvent in the closed cavity prior to supplying the molding material to the closed cavity and evacuating the vaporized solvent from the closed cavity (Column 4, lines 1-5; Column 7, lines 63-67; Column 8, lines 1-8); and forming the molded portion by supplying a molding material into the cavity after the releasing agent is formed (Column 4, lines 5-12; Column 7, lines 48-62). Although Nagasaka only refers to the boiling of the solvent of the interior layer (U2), it is being interpreted that since the surface layer (U1) comprises the same or very similar materials, U1 will also boil under the applied vacuum. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made for the solvent of the release agent layer (i.e. surface layer) to be caused to boil and evacuated from the closed mold cavity in order to provide the desired skin appearance of the surface layer (see Nagasaka, Column 8, lines 2-3). Nagasaka does not show forming a release agent layer by injecting a liquid consisting of a releasing agent and a solvent. Cavender shows that it is known to carry out a method of forming a releasing agent layer by injecting a first liquid consisting of a releasing agent and a solvent into a cavity (Column 25, lines 33-37). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Cavender's release agent layer composition as that of Nagasaka's molding process in order to provide effective release of the molded product with the minimization of use of hydrocarbon solvents (See Cavender, Column 25, lines 17-19).

Regarding Claim 30, Nagasaka shows the process as claimed as discussed in the rejection of Claim 29 above, but he does not specifically show measuring an amount of molding material. Nagasaka shows that it is known to carry out a method wherein the injection of the first liquid includes injecting a previously measured amount of the first liquid into the cavity

(Column 7, lines 32-35). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Nagasaka's measuring step during Nagasaka's molding process in order to avoid overfilling or underfilling the mold cavity.

Regarding Claim 31, Nagasaka shows the process as claimed as discussed in the rejection of Claim 29 above, but he does not show specifically molding a surface layer. Nagasaka shows that it is known to carry out a method including forming a surface layer on the wall surface of the cavity by injecting a second liquid containing material of the surface layer into the cavity and depressurizing the cavity (Column 1, lines 55-67; Column 2, lines 6-9; Column 7, lines 32-36). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Nagasaka's surface layer molding step during Nagasaka's molding process in order to enable the formation of widely-varied decorative objects.

Regarding Claim 32, Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, including a method including placing an insert member in the mold prior to said forming of the releasing agent layer (element 45/46: steering wheel and/or core); and closing the mold prior to said forming of the releasing agent layer (Column 7, lines 21-22, 45-46), meeting applicant's claim.

Regarding Claim 33, Nagasaka shows the process as claimed as discussed in the rejection of Claim 29 above, including a method further comprising placing an insert member in the mold prior to both of said closing the mold and injecting the first liquid (element 45/46; Column 7, lines 21-22, 45-46), meeting applicant's claim.

Regarding Claim 34, Nagasaka shows that it is known to carry out a method for manufacturing a molded product using a mold having a cavity (Abstract), the method comprising injecting a first liquid including a releasing agent and a solvent into the closed cavity of a mold prior to supplying a molding material forming a molded portion to the closed cavity (Column 3, lines 65-67; Column 4, lines 1-5; Column 7, lines 21-22, 32-47; the releasing agent is incorporated into the surface layer); and depressurizing to boil the solvent in the cavity prior to supplying the molding material to the closed cavity, thereby removing the solvent from the closed cavity prior to supplying the molding material to the closed cavity, and forming on the entire surface of the closed cavity a layer (Column 4, lines 1-5; Column 7, lines 63-67; Column 8, lines 1-8); and supplying a molding material, for forming the molded portion, into the closed cavity (Column 4, lines 5-12; Column 7, lines 48-62). Although Nagasaka only refers to the boiling of the solvent of the interior layer (U2), it is being interpreted that since the surface layer (U1) comprises the same or very similar materials, U1 will also boil under the applied vacuum. Therefore, it would have been prima facie obvious to one of ordinary skill in

the art at the time the invention was made for the solvent of the release agent layer (i.e. surface layer) to be caused to boil and evacuated from the closed mold cavity in order to provide the desired skin appearance of the surface layer (see Nagasaka, Column 8, lines 2-3). Nagasaka does not show forming a release agent layer by injecting a liquid consisting of a releasing agent and a solvent. Cavender shows that it is known to carry out a method of forming a releasing agent layer by injecting a first liquid consisting of a releasing agent and a solvent into a cavity (Column 25, lines 33-37). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Cavender's release agent layer composition as that of Nagasaka's molding process in order to provide effective release of the molded product with the minimization of use of hydrocarbon solvents (See Cavender, Column 25, lines 17-19).

Regarding Claim 35, Nagasaka shows the process as claimed as discussed in the rejection of Claim 34 above, including a method further comprising placing an insert member in the mold (element 45/46; Column 7, lines 1-22), closing the mold (Column 7, lines 21-22), wherein said placing an insert member and said closing the mold are performed prior to the injecting the first liquid (Column 7, lines 21-22, 32-47), meeting applicant's claim.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaka, in view of Farber (U.S. Patent 3,768,232). Nagasaka shows the process as claimed as discussed in the rejection of Claim 21 above, but he does not show recovering the solvent. Farber et al., hereafter "Farber," show that it is known to recover the solvent vaporized in a process (Column 1, lines 33-35) and reuse the recovered solvent as the solvent in a subsequent process (Column 3, lines 16-17). Farber and Nagasaka are combinable because they are concerned with a similar technical field, namely, processes which involve the vaporization of solvents. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Farber's recovery and reuse process during Nagasaka's molding process in order to reduce operating costs using recycling.

Response to Arguments

Applicant's arguments with respect to claims 21-23 and 25-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monica A Huson

December 22, 2007